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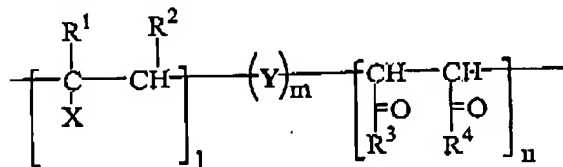
Application No. 10/655,343
 Amendment dated July 6, 2007
 Reply to Office Action of April 6, 2007

Docket No.: 2519-0227PUS1

AMENDMENTS TO THE CLAIMS

The pending claims are listed as follows:

1. (Currently Amended) A concrete admixture additive having the formula:

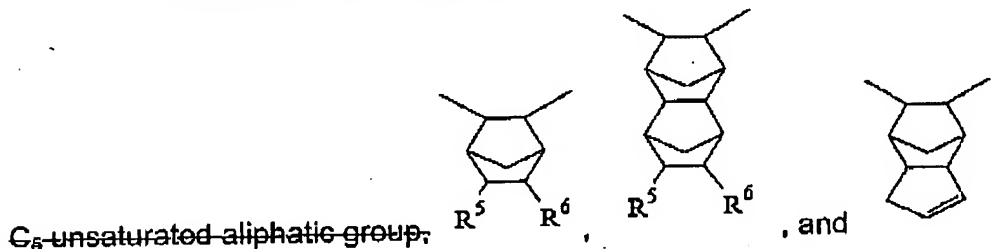


wherein R¹ is hydrogen or methyl;

R² is hydrogen or methyl;

X is selected from the group consisting of C₆-C₁₀ aromatic group, C₆-C₁₀ sulfonated aromatic group, C₅-C₈ cyclic alkyl group, and C₁₋₁₀ alkoxy group;

Y is selected from the group consisting of ~~C₂-C₈ saturated aliphatic group, C₂-~~



wherein R⁵ and R⁶ are respectively selected from the group consisting of hydrogen, halogen, C₁₋₁₀ alkyl group, C₆₋₁₀ aromatic group, C₆₋₁₀ fluoroaromatic group, C₁₋₁₀ alkoxy group, C₂₋₁₀ alkenyl group, C₇₋₁₁ aromatic alkyl group, C₈₋₁₂ aromatic alkenyl group and C₇₋₁₁ alkyl aromatic group;

R³ and R⁴ are respectively selected from the group consisting of NHR⁷, OR⁷, OH and O⁺M⁺, wherein M⁺ is an alkaline metal cation, alkaline earth metal cation, or ammonium, R⁷ is an oxyalkenyl or polyoxyalkenyl, having the formula (ZO)_pR⁸, wherein Z is a C₂-C₅ aliphatic group, p is an integer from 5 to 100, and R⁸ is a C₁-C₅ aliphatic group or C₆-C₁₀ aromatic group;

I is an integer from 0 to 25;

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m is an integer from 0 1 to 25; and
n is an integer from 0 to 50, and both l and n are not zero simultaneously,
~~provided at least two of l, m, and n are not zero.~~

2. (Currently Amended) The concrete admixture additive according to claim 1,
wherein l is an integer from 0 to 10; m is an integer from 0 1 to 10; and n is an integer
from 0 to 25.

3. (Currently Amended) The concrete admixture additive according to claim 1,
wherein

l is an integer from 0 to 5;
m is an integer from 0 1 to 5; and
n is an integer from 0 to 25.

4. (Original) The concrete admixture additive according to claim 1, wherein R¹ is
hydrogen.

5. (Original) The concrete admixture additive according to claim 1, wherein R² is
hydrogen.

6. (Original) The concrete admixture additive according to claim 1, wherein X is
phenyl.

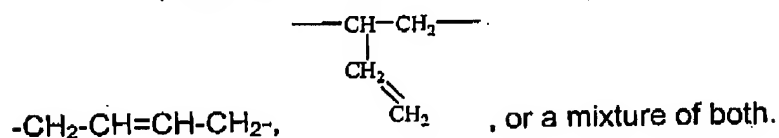
7. (Original) The concrete admixture additive according to claim 1, wherein X is
sulfonated phenyl.

8. (Original) The concrete admixture additive according to claim 1, wherein Y is
-CH₂-CH₂-.

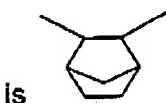
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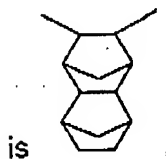
9. (Original) The concrete admixture additive according to claim 1, wherein Y is



10. (Original) The concrete admixture additive according to claim 1, wherein Y

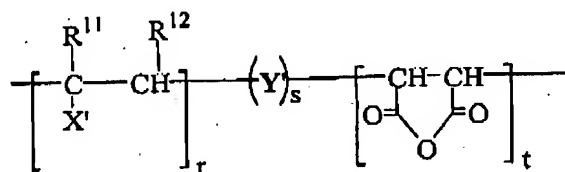


11. (Original) The concrete admixture additive according to claim 1, wherein Y



12. (Withdrawn) A process for manufacturing a concrete admixture additive, comprising the steps of:

(a) preparing a first reagent containing 1-75% by weight of a polymer having the formula:



wherein R¹¹ is hydrogen or methyl;

R¹² is hydrogen or methyl;

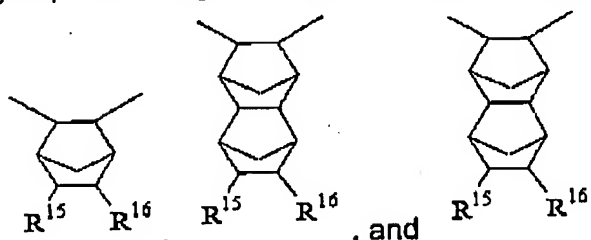
X' is selected from the group consisting of C₆-C₁₀ aromatic group, C₆-C₁₀ sulfonated aromatic group, C₅-C₆ cyclic aromatic group, and C₁₋₁₀ alkoxy group;

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Y' is selected from the group consisting of C₂-C₅ saturated aliphatic group, C₂-

C₅ unsaturated aliphatic group,



wherein R¹⁵ and R¹⁶ are respectively selected from the group consisting of hydrogen, halogen, C₁₋₁₀ alkyl group, C₆₋₁₀ aromatic group, C₆₋₁₀ fluoroaromatic group, C₁₋₁₀ alkoxy group, C₂₋₁₀ alkenyl group, C₇₋₁₁ aromatic alkyl group, C₈₋₁₂ aromatic alkenyl group and C₇₋₁₁ alkyl aromatic group;

r is an integer from 0 to 25;

s is an integer from 0 to 25; and

t is an integer from 0 to 50; provided at least two of r, s and t are not zero;

(b) reacting the first reagent with a second reagent at a temperature between 20 and 180 °C., wherein the second reagent contains 1-75% by weight of at least one oxyalkene or polyoxyalkene having the formula H₂N(Z'O)_qR¹⁸ or HO(Z'O)_qR¹⁸,

wherein Z' is a C₂-C₅ aliphatic group;

q is an integer from 5 and 100; and

R¹⁸ is a C₁-C₅ aliphatic group or C₆-C₁₀ aromatic group;

(c) reacting the resultant mixture of (b) with an acidic reagent to form a carboxylated polymeric product, wherein the acidic reagent contains 1-10% by weight of an inorganic acid or sulfuric organic acid; and

(d) treating the carboxylated polymeric product with an alkaline reagent, wherein the alkaline reagent contains 1-10% by weight of a compound having the formula M(OR¹⁹)_v,

wherein M is an alkaline metal cation, alkaline earth metal cation, or ammonium;

v is the valence of M; and

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R^{19} is selected from the group consisting of hydrogen, C_{1-10} alkyl group, C_{6-10} aromatic group, C_{1-10} alkoxy group, C_{7-11} aromatic alkyl group, C_{8-12} aromatic alkenyl group and C_{7-11} alkyl aromatic group.

13. (Withdrawn) The process for manufacturing a concrete admixture additive according to claim 12, wherein

r is an integer from 0 to 10;

s is an integer from 0 to 10; and

t is an integer from 0 to 25.

14. (Withdrawn) The process for manufacturing a concrete admixture additive according to claim 12, wherein

r is an integer from 0 to 5;

s is an integer from 0 to 5; and

t is an integer from 0 to 25.

15. (Withdrawn) The process for manufacturing a concrete admixture additive according to claim 12, wherein R^{11} is hydrogen.

16. (Withdrawn) The process for manufacturing a concrete admixture additive according to claim 12, wherein R^{12} is hydrogen.

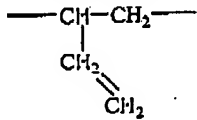
17. (Withdrawn) The process for manufacturing a concrete admixture additive according to claim 12, wherein X' is phenyl.

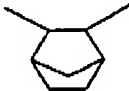
18. (Withdrawn) The process for manufacturing a concrete admixture additive according to claim 12, wherein X' is sulfonated phenyl.

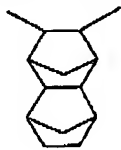
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19. (Withdrawn) The process for manufacturing a concrete admixture additive according to claim 12, wherein Y' is $-\text{CH}_2-\text{CH}_2-$.

20. (Withdrawn) The process for manufacturing a concrete admixture additive according to claim 12, wherein Y' is $-\text{CH}_2-\text{CH}=\text{CH}-\text{CH}_2-$, or , or a mixture of both.

21. (Withdrawn) The process for manufacturing a concrete admixture additive according to claim 12, wherein Y' is .

22. (Withdrawn) The process for manufacturing a concrete admixture additive according to claim 12, wherein Y' is .